De La Salle School | St. Anthony's Primary | St. Joseph's Institution Junior | St. Stephen's School

CHRISTIAN BROTHERS' SCHOOLS

SEMESTRAL ASSESSMENT 1

2012

PRIMARY 6

MATHEMATICS

PAPER 1

(BOOKLET A)

NAME: _____ ( )

CLASS: 6 _____

15 Questions
20 Marks

Total Time for Booklets A and B : 50 min

Instructions to candidates

- Do not open this booklet until you are told to do so.
- Follow all instructions given at the beginning of each section carefully.
- An Optical Answer Sheet is provided for answers to Questions 1 to 15.
- Do not waste time. If a question is difficult, go on to the next one.
- Answer all questions.
- You are **not** allowed to use a calculator.

This booklet consists of 6 printed pages.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

1. The number of people in the hall, when rounded off to the nearest hundred, is 3 000. Which of the following could be the actual number of people in the hall?

   (1) 2899

   (2) 2905

   (3) 3048

   (4) 3159

2. What is the missing number in the box?

$$1\frac{3}{4}+1\frac{3}{4}+1\frac{3}{4}+1\frac{3}{4}=\square \times\frac{7}{4}+1\frac{3}{4}$$

   (1) 7

   (2) 2

   (3) 3

   (4) 4

3. Express $\frac{9}{25}$ km in decimal.

   (1) 0.036 km

   (2) 0. 36 km

   (3) 3.06 km

   (4) 3.6 km

4. $\frac{2}{5}$ of the children in a hall are girls. What percentage of the children in the hall are boys?

(1) 20%

(2) 40%

(3) 60%

(4) 80%

5. The average of 3 numbers is 7y. One of the numbers is 2y and the other number is 9. Express the third number in terms of y.

(1) $21y - 9$

(2) $19y - 9$

(3) $9y - 9$

(4) $5y - 9$

6. $\frac{2}{3}$ of James' money is the same as $\frac{1}{5}$ of Gerald's money. Express Gerald's money as a ratio to the total amount of money both boys have.

(1) 2:1

(2) 5:6

(3) 3:10

(4) 10:13

7. Find the volume of a cube with a base area of 36 cm^2.

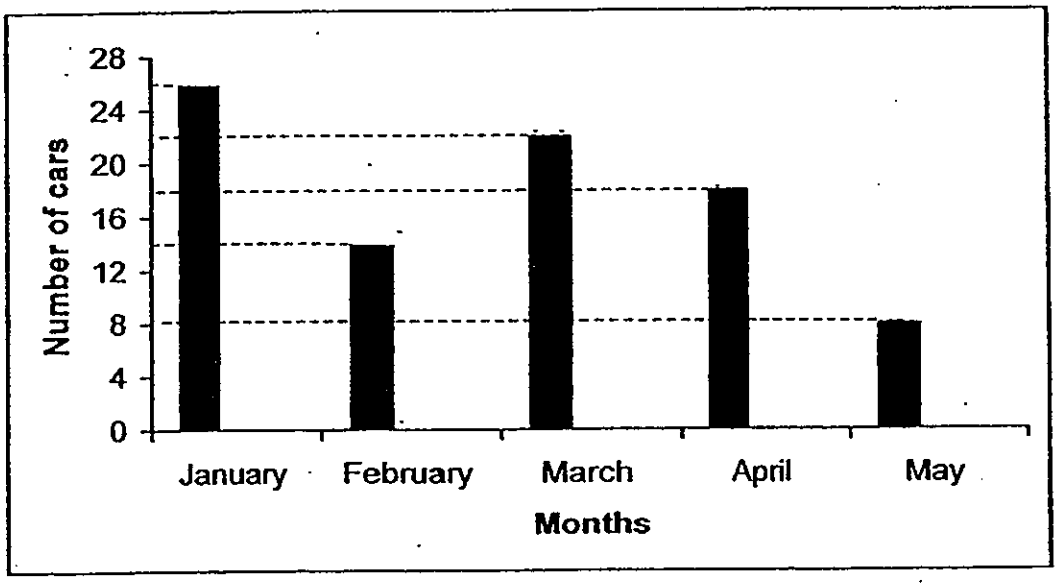
(1) 6 cm^3

(2) 18 cm^3

(3) 216 cm^3

(4) 1296 cm^3

8. The bar graph below shows the number of cars sold from January to May.



During which period was the decrease in the number of cars sold the greatest?

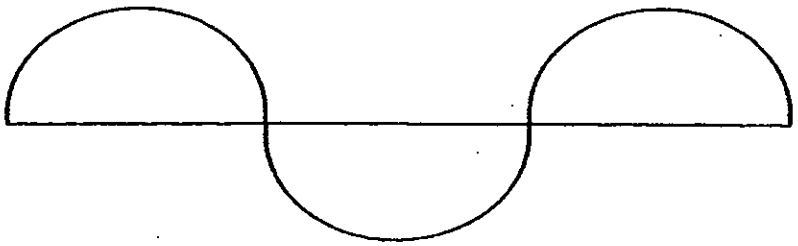
(1) January to February

(2) February to March

(3) March to April

(4) April to May

9. The figure shown below is not drawn to scale. It is made up of 3 semi-circles, each radius 14 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



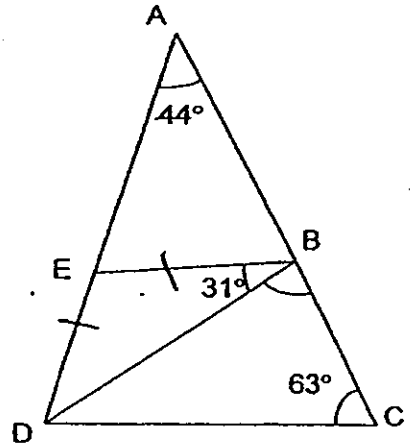
(1) 88 cm

(2) 132 cm

(3) 174 cm

(4) 216 cm

10. In the figure below, ABC and AED are straight lines, and BE = ED.
Find $\angle DBC$.



(1) 31°

(2) 42°

(3) 75°

(4) 86°

11. Joe has $36. If he has the same number of ten-cent coins and fifty-cent coins, how many coins does he have altogether ?

(1) 120

(2) 144

(3) 180

(4) 240

12. There are some geese, chickens and ducks in a farm. $\frac{2}{5}$ of the animals are geese, the rest are chickens and ducks. The ratio of the number of chickens to the number of ducks is 7 : 8. If there are 40 more geese than ducks, how many geese are there?

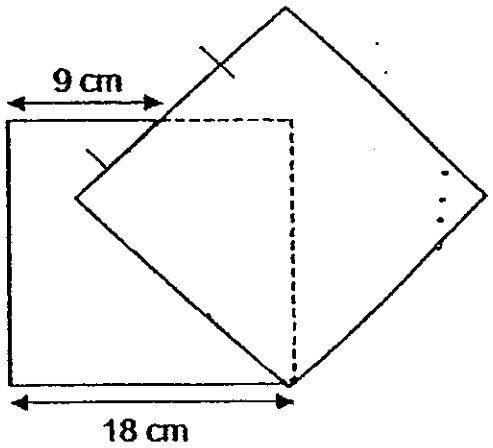
(1) 140

(2) 160

(3) 200

(4) 500

13. The figure shown below, not drawn to scale, is made up of 2 identical squares overlapping each other. Find the area of the figure.



(1) 162 cm^2

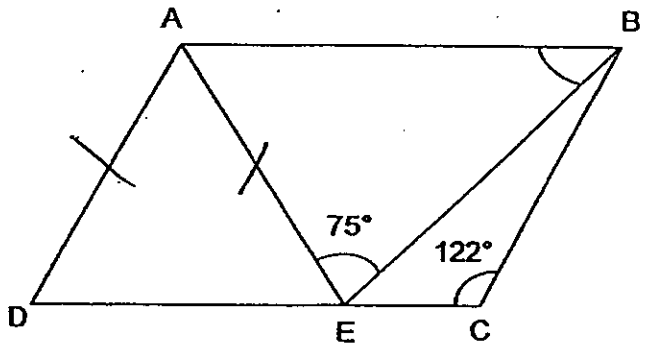
(2) 324 cm^2

(3) 486 cm^2

(4) 648 cm^2

14. In the figure below, not drawn to scale, ABCD is a parallelogram.

AD = AE and ∠BCE = 122°. Find the value of ∠ABE.



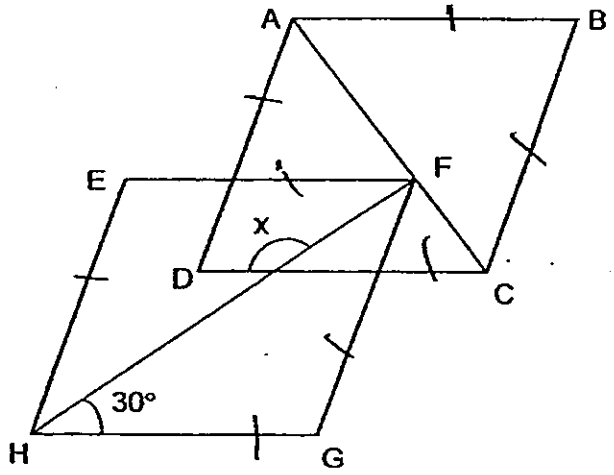
(1) 47°

(2) 58°

(3) 105°

(4) 122°

15. In the figure below, not drawn to scale, ABCD and EFGH are identical rhombuses. Given that AB is parallel HG and AC = EF, find the value of ∠x.



(1) 30°

(2) 60°

(3) 130°

(4) 150°

- End of Booklet A -

De La Salle School St. Anthony's Primary St. Joseph's Institution Junior St. Stephen's School

CHRISTIAN BROTHERS' SCHOOLS
SEMESTRAL ASSESSMENT 1

2012

PRIMARY 6

MATHEMATICS

PAPER 1

(BOOKLET B)

NAME: _____ ( )

CLASS: 6 _____

15 Questions **Total Time for Booklets A and B : 50 min**
20 Marks

Instructions to candidates

- Do not open this booklet until you are told to do so.
- Follow all instructions given at the beginning of each section carefully.
- Answer all questions.
- Do not waste time. If a question is difficult, go on to the next one.
- Write your answers in this booklet.
- You are **not** allowed to use a calculator.

BOOKLET	MARKS	
	POSSIBLE	ACTUAL
A	20	
B	20	
TOTAL	40	

PARENT'S SIGNATURE: _____

This booklet consists of _8_ printed pages.

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

16. The average of 3 numbers is 65. What is the sum of the 3 numbers?

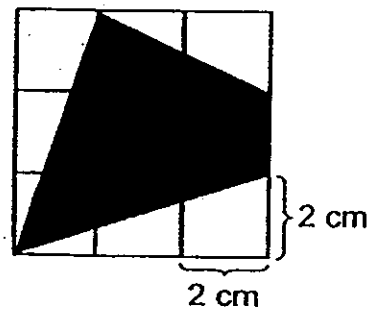
Ans: _____

17. What is the missing number in the box?

$80 \div 4 + \square \times 6 = 80$

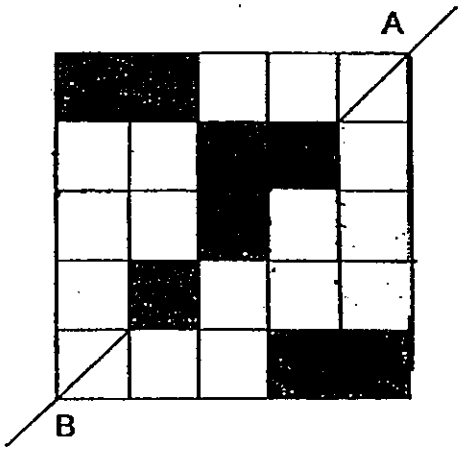
Ans: _____

18. Find the area of the shaded figure in the diagram shown below.

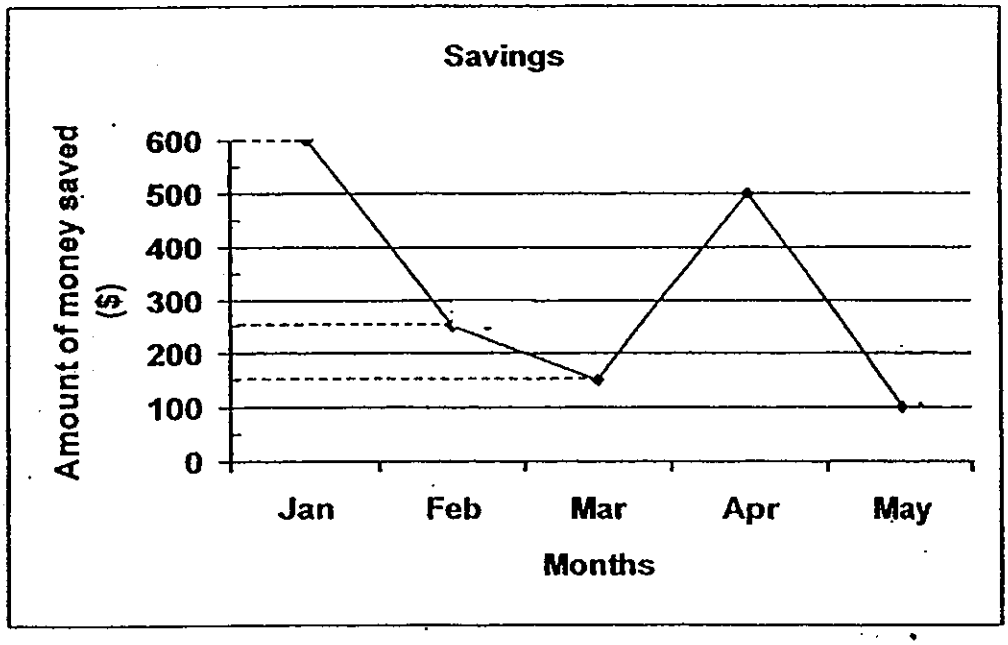


Ans: _____ cm^2

19. Shade 3 squares so that line AB is the line of symmetry for the figure.



20. The line graph below shows the amount of money William saved over 5 months.

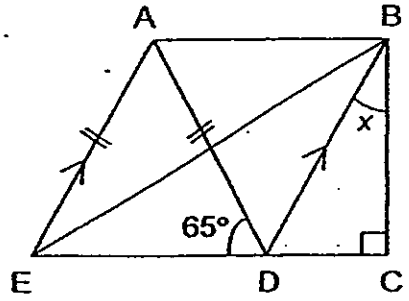


In which month did William save twice as much as the amount he save in February?

Ans: _____

21. In the figure below, not drawn to scale, ABDE is a parallelogram and triangle ADE is an isosceles triangle. AE // BD and BC ⊥ CD. ∠ADE is 65°.

Find the value of ∠x.



Ans: _____°

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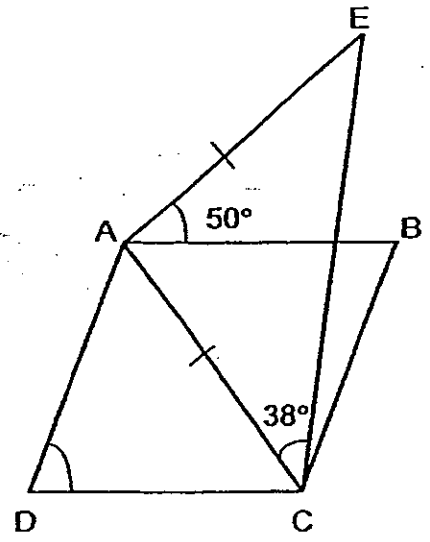
22. In the figure below, not drawn to scale, ABCD is a rhombus, and AE = AC.

Find ∠ADC.



Ans: _____°

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23. Mdm Salima baked 65 cupcakes. 20% of the cupcakes were strawberry cupcakes and the rest were chocolate cupcakes. How many more chocolate cupcakes than strawberry cupcakes were there?

Ans: _____

24. The sides of a triangle are in the ratio 4 : 1 : 4. The difference between the longest side and the shortest side is 18 cm. Find the perimeter of the triangle.

Ans: _____ cm

25. The table below shows the prices of apples and oranges sold at a supermarket.

Apple	z cents
Orange	(z + 5) cents

William bought 2 oranges and 3 apples. How much did he spend?

(Give your answer in terms of z.)

Ans: _____ cents

Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

26. Bernice and Charlie went shopping. Bernice bought 2 similar blouses and a dress. She spent twice as much money as Charlie. They spent $ 750 altogether. If each dress cost $ 120, what was the price of a blouse?

Ans: $_____

27. Two barrels X and Y contained different amounts of oil at first. Some oil from X was poured into Y so that the amount of oil in Y was doubled. Then some oil from Y was poured into X so that the amount of oil in X was doubled. After these pouring, the barrels each contained 18 litres of oil. How many litres of oil were in X at first?

Ans: _____ litres

28. A rectangle is folded along the diagonal as shown.

The area of Figure 1 is now $\frac{5}{8}$ of the area of the original rectangle.

If the area of the shaded triangle is 18cm^2, find the area of the original rectangle.

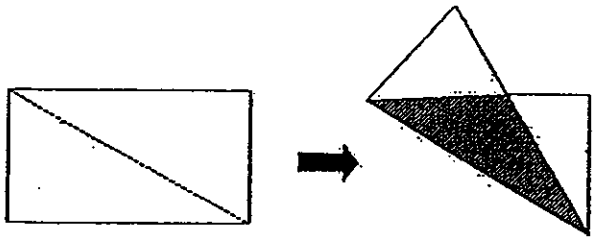


Figure 1

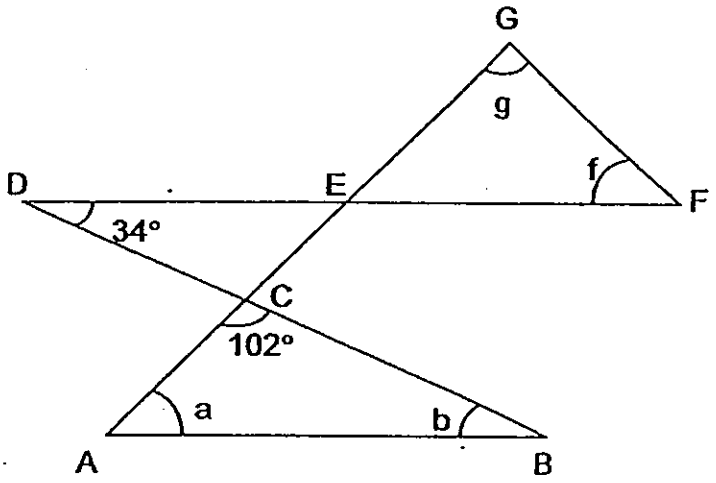
Ans: _____ cm^2

29. A circular wheel has a diameter of 14 cm. It can make 20 revolutions per minute. How long does it take to travel 44 m? (Take $\pi = \frac{22}{7}$)

Ans: _____ min

30. In the figure shown below, not drawn to scale, $\angle ACB = 102°$ and $\angle CDE = 34°$.

GEA, DEF and DCB are straight lines. Find the sum of $\angle a$, $\angle b$, $\angle f$ and $\angle g$.



Ans: _____°

- End of Booklet B -

De La Salle School | St. Anthony's Primary | St. Joseph's Institution Junior | St. Stephen's School

CHRISTIAN BROTHERS' SCHOOLS

SEMESTRAL ASSESSMENT 1

2012

PRIMARY 6

MATHEMATICS

PAPER 2

NAME: _____ ( )

CLASS: 6

18 Questions **Time : 1 h 40 min**
60 Marks

Instructions to candidates

- Do not open this booklet until you are told to do so.
- Follow all instructions given at the beginning of each section carefully.
- Show all working clearly as marks are awarded for correct working.
- Answer all questions.
- Do not waste time. If a question is difficult, go on to the next one.
- Write your answers in this booklet.
- You are allowed to use a calculator.

BOOKLET	MARKS	
	POSSIBLE	ACTUAL
PAPER 1	40	
PAPER 2	60	
TOTAL	100	

PARENT'S SIGNATURE: _____

This booklet consists of 13 printed pages.

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

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1. Fredrick's present age is a multiple of 4. Next year, his age will be a multiple of 3. If Fredrick is more than 32 years old but less than 55 years old now, how old is he now?

Ans: _____

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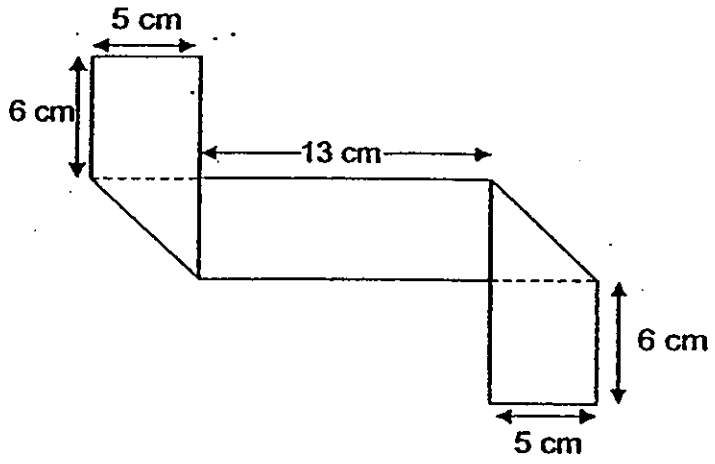
2. A rectangular piece of paper is folded to form the shape shown below.



Find the perimeter of the rectangular piece of paper before it was folded.

Ans: _____ cm

---

3. A rectangle measures 10 cm by 8 cm. Its area is decreased by 20%. What is the area of the new figure?

Ans: _____ cm^2

---

4. Sam has $\frac{3}{7}$ as much money as Michael and $\frac{3}{4}$ as much money as Peter. What is the ratio of Sam's money to the total amount of money the 3 boys have?

Ans: _____

---

5. Ken has \$70. After receiving \$4x from his father, he has just enough money to buy 3 identical wallets. What is the cost of each wallet in terms of x?

Ans: \$_____

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(50 marks)

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6. In a school hall, there were $\frac{2}{5}$ as many boys as girls. After 3 boys left the hall and another 3 girls entered the hall, there are now $\frac{1}{3}$ as many boys as girls in the school hall. How many children were there in the school hall at first?

Ans: _____ [3]

---

7. There are 3 metal rods. The length of Rod A is $\frac{5}{9}$ of the length of Rod B. Rod C is $\frac{2}{3}$ as long as Rod B. If Rod B is 81 cm longer than Rod C, find the total length of the 3 rods.

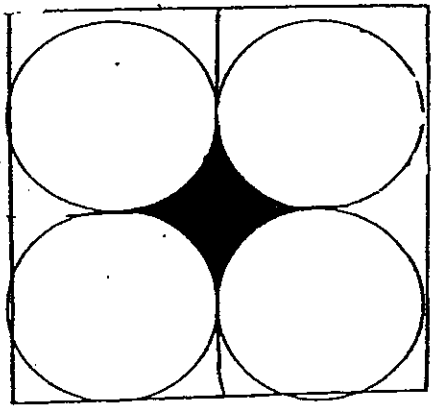
Ans: _____ [3]

---

8. Max collected 168 more stickers than Sam. After Max received 32 stickers from Sam, Max had 5 times as many stickers as Sam. How many stickers did Sam have at first?

Ans: _____ [3]

9. The figure below shows 4 identical circles of diameter 16 cm.
Find the area of the shaded part. (Take $\pi = 3.14$)
(Give your answer correct to 1 decimal place.)

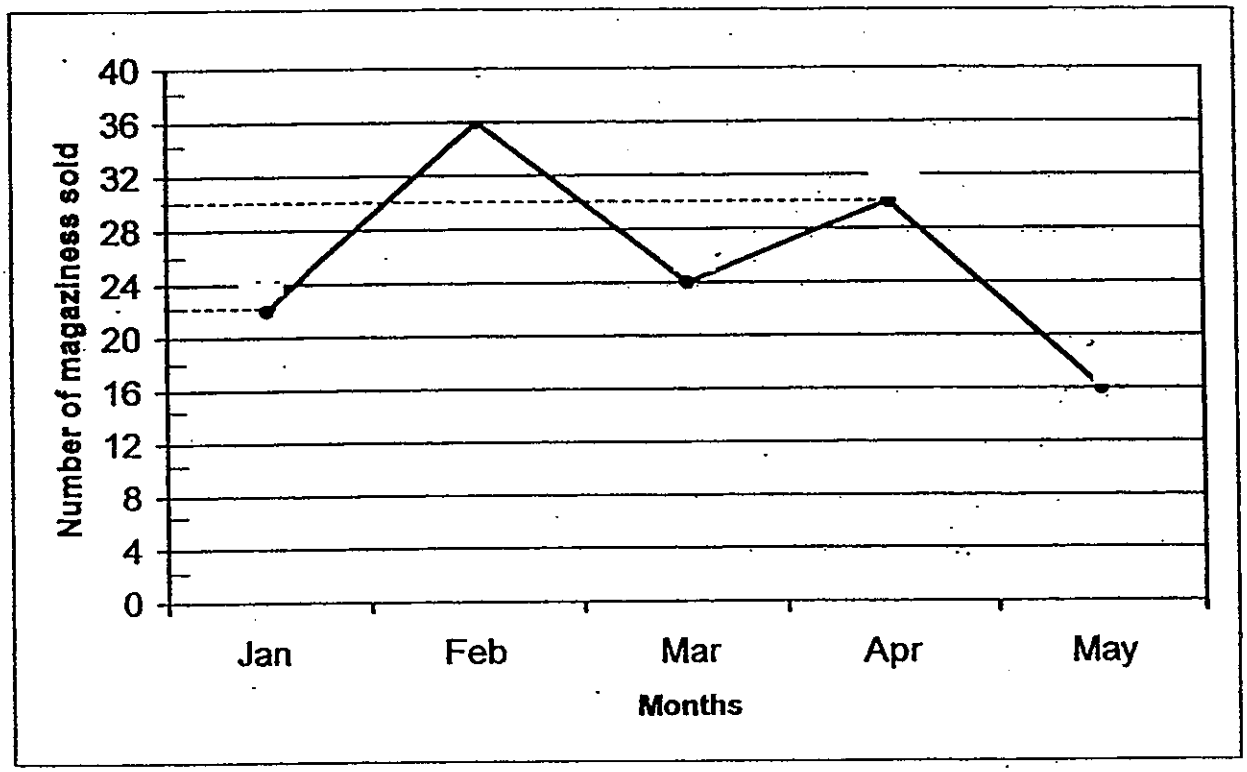


Ans: _____ [3]

10. Wendy, Xavier and Sharon had an average of $436. The total amount of money Wendy and Xavier had was $88 more than Sharon. Xavier had $52 more than Wendy. How much money did Xavier have?

Ans: _____ [4]

11. The line graph below shows the number of magazines sold from January to May.



(a) Find the increase in the number of magazines sold from March to April.

(b) The total number of magazines sold from January to March was $\frac{2}{3}$ the total number of magazines sold from April to June. How many magazines were sold in June?

Ans: (a) _____ [1]

(b) _____ [2]

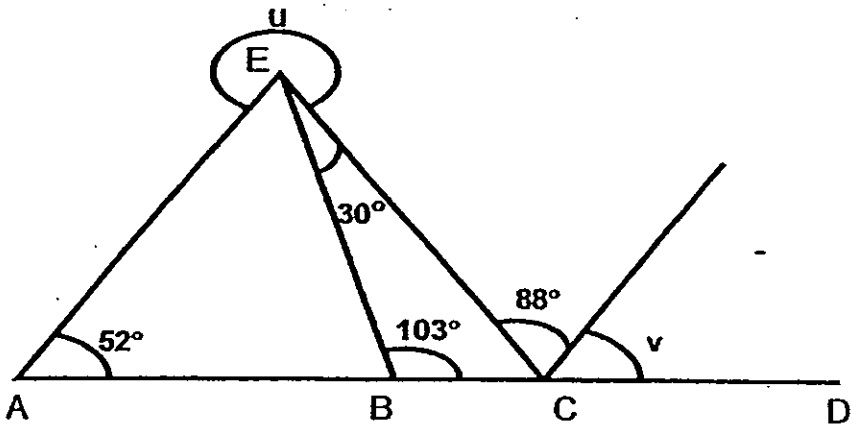
12. An iron cuboid measuring 27 cm by 3 cm by 3 cm was melted and made into a larger cube and a smaller cube. The volume of the smaller cube was $\frac{1}{8}$ of the volume of the larger cube. Find the length of the side of the larger cube.

Ans: _____ [4]

13. In the figure below, not drawn to scale, ABCD is a straight line. ABE is a triangle. Find

(a) $\angle v$

(b) $\angle u$



Ans: (a) _____ [2]

(b) _____ [2]

14. Jasmine and Paul had some money in the ratio 7 : 4.
Paul and Nick had some money in the ratio 2 : 1.
When Jasmine spent some of her money and Paul gave Nick $15, the three children had the same amount of money each.
How much money did Jasmine spend?

Ans: _____ [4]

15. Town A and Town B are 645 km apart. At 8.30 a.m., a car set off from Town A for Town B at an average speed of 70 km/h. At 12 noon, a bus left Town B for Town A at an average speed of 80 km/h. At what time would the 2 vehicles pass each other?

Ans: _____ [4]

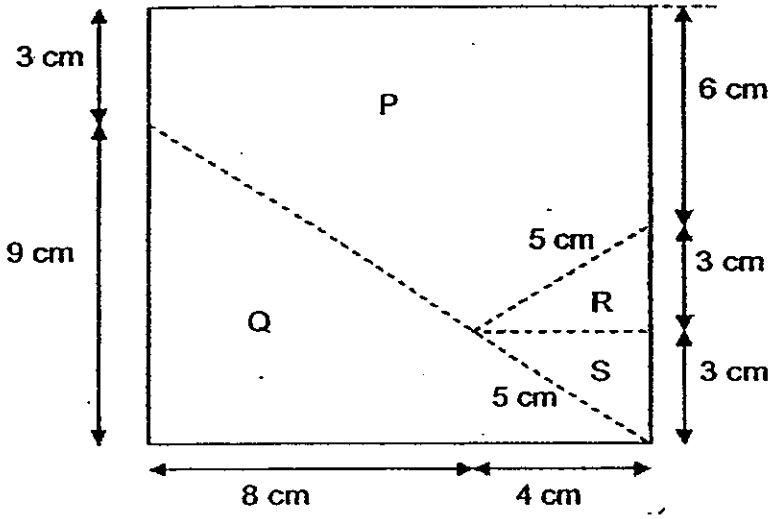
16. At first, Jessie had $\frac{2}{3}$ as many beads as Lynn. After Jessie bought 84 more beads and Lynn lost 25 beads, Jessie now has $\frac{4}{5}$ as many beads as Lynn. Find the number of beads Jessie had at first.

Ans: _____ [5]

17. Peter cuts a 12-cm square into 4 pieces P, Q, R and S along the dotted lines as shown. He finds that the four pieces can be arranged to form a rectangle.

(a) What is the area of the rectangle that is formed?

(b) What is the perimeter of the rectangle that is formed?



Ans: (a) _____ [1]

(b) _____ [4]

18. The total number of cards in Box A, Box B and Box C was 1022 at first. Denise gave away $\frac{3}{5}$ of the cards from Box A, put 70 more new cards into Box B and added some cards into Box C until the number of cards in Box C became thrice its original number. The ratio of the number of cards in Box A to that in Box B to that in Box C then became 2 : 5 : 9.

(a) How many more cards were there in Box C than Box A in the end?

(b) What was the percentage increase in the number of cards in Box B?

Ans : (a) _____ [3]

(b) _____ [2]

- End of Paper -

Christian Brother's Schools
Semestral Assessment 1 – 2012
Answer Key for P6 Mathematics
Paper 1

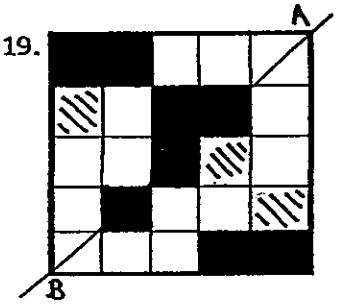
1)	3	6)	4	11)	1
2)	3	7)	3	12)	3
3)	2	8)	1	13)	3
4)	3	9)	4	14)	1
5)	2	10)	3	15)	4

16. 195

17. 10

18. 20

19.



20. Apr

21. 25

22. 72

23. 39

24. 54

25. (5z + 10)

26. Charlie spent → 750 ÷ 3
= 250
Bernice spent → 250 x 2
= 500
2 Blouses → 500 – 120
= 380
1 Blouse → 380 ÷ 2
= 190

27. 18 x 2 = 36
X (now) → 18 ÷ 2

=9

Y (now) → 18 + 9
= 27

Y (before) → 27 ÷ 2
= 13.5

X (before) → 9 + 13.5
= <u>22.5</u>

28. 8 – 5 = 3
3u → shaded triangle
3u → 18 cm^2
1u → 18 cm^2 ÷ 3
= 6 cm^2
8u → 6 cm^2 x 8
= <u>48 cm^2</u>

29. Perimeter of wheel → 14 x (22 ÷ 7)
= 44 cm
Travel after a min → 44 x 20
= 8.8 m
44 m ÷ 8.8m → 5
5 x 1 = <u>5 min</u>

30. Angle DEC → 180 – 43 – 102
= 44
Angle G + F → 180 – 44
= 136
Angle A + B → 180 – 102
= 78
Angle G + F + A + B → 136 + 78
= <u>214</u>

Paper 2

1. 4: 32, 36, 40, **44**, 48, 52, 56
3: 30, 33, 36, 39, 42, **45**, 48, 51, 54
44 + 1 = 45
Ans: <u>44 years old</u>

2. Length → 6 + 5 + 13 + 5 + 6
= 35 cm
Breadth → 5 cm
Perimeter → (35 + 5) x 2
= <u>80 cm</u>

3. Area of rect. → 10 x 8
= 80
80 x (80 ÷ 100) = <u>64 cm^2</u>

4. P → 4u
   S → 3u
   M → 7u
   Total → 11u
   Sam : Total
   3 : 14

5. $70 + $4x = $(70 + 4x)
   $(70 + 4x) ÷ 3 = $((70 + 4x) ÷ 3)

6. Before
   B : G : TT
   2 : 5 : 7
   8 : 20 : 28
   After
   1 : 3 : 4
   7 : 21 : 28
   1u → 3
   28u → 3 x 28
   = 84

7. A : B : C
   5 : 9
   3 : 2
   5 : 9 : 6
   3u → 81
   1u → 81 ÷ 3
   = 27
   20u → 20 x 27
   = 540 cm

8. 4u → 32 + 168 +32
   = 232
   1u → 232 ÷ 4
   = 58
   Sam at first → 58 + 32
   = 90 stickers

9. Area of 1 small square = 16 x 16
   = 256 cm^2
   Area of 1 small arc = 3.14 x 8 x 8
   = 200.96 cm^2
   Area of shaded part = 256 – 200.96
   = 55.04 = 55.0 cm^2

10. Total amt the 3 girls have → 436 x 3
    = 1308
    1308 + 88 = 1396

Total amt Wendy and Xavier had → 1396 ÷ 2
= 698

698 + 52 = 750

Amt Xavier had → 750 ÷ 2
= $375

11. (a) 30 – 24 = 6

(b) Total magazine sold from Jan to Mar → 22 + 36 + 24
= 82

2u → 82

1u → 82 ÷ 2
= 41

Total magazine sold from Apr to Jun → 41 x 3
= 123

Magazine sold in Jan → 123 – 30 – 16
= 77 magazines

12. Total vol. of large and small cube → 27 x 3 x 3
= 243

List of cube volume until 243 → 1, 8, 27, 64, 125, 216

216 ÷ 8 = 27

125 ÷ 15r5

64 ÷ 8 = 8

64 + 8 = 72

216 + 27 = 243

$\sqrt[3]{216}$ = 6 cm

13. (a) Angle ECB → 180° - 103° - 30°
= 47°

Angle V → 180° - 47° - 88°
= 45°

(b) Angle EBA → 180° - 103°
= 77°

Angle AEB → 180° - 77° - 52°
= 51°

Angle U → 360° - 51° - 30°
= 279°

14. J → 7u

P → 4u

N → 2u

4u + 2u = 6u

6u ÷ 2 = 3u

4u – 3u = 1u

1u → 15

7u – 3u = 4u

Jasmine spent 4u.

4u → 15 x 4 = $60

15. Dist. (car) → S x T
= 70 x 3.5
= 245 km
645 – 245 = 400
TT speed C + B → 80 + 70
= 150
Time → (D ÷ S) → (400 ÷ 150)
= 2⅔ h
2⅔ h after 12 noon is 2.40 pm .

16. 10u + 420 = 12u – 100
12u – 10u = 420 + 100
2u → 520
1u → 520 ÷ 2
= 260
2u → 260 x 2
= 520 beads

17. (a) area of rect. → 9 x (4 + 8 + 4)
= 144 cm^2
(b) perimeter of rectangle → (9 + 4 + 8 + 4) x 2
= 50 cm

18. (a) A : B : C : T
5u : 5u-70 : 3u : 13u-70
2u : 5u : 9u : 16u
1022 + 70 = 1092
5u + 5u + 3u = 13u
13u → 1092
1u → 1092 ÷ 13
= 84
9u – 2u = 7u
7u → 7 x 84
= 588 cards
(b) Percentage increase in no. → (70 ÷ 350) x 100
= 20%